

BANGALORE UNIVERSITY

DEPARTMENT OF CIVIL ENGINEERING

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JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/

1. TESTING OF FINE AGGREGATES:

Date: 16-10-2015

Sub: Testing of Fine Aggregates.

{Project*: Improvements to Road and Drains at Kogilu in Ward No.06, Byatarayanapura Sub-Division}

Ref. : Letter No. AEE/BSDB/BBMP/ /2013-14, dated 10-10-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.M.B.Hombal, Contractor.

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2002)			Remarks
		Percentage Passing			
		Zone-I	Zone-II	Zone -III	
04.75	97.20	90-100	90-100	90-100	The Sample Conforms to Grading Zone-II
02.36	86.00	60-95	75-100	85-100	
01.18	76.00	30-70	55-90	75-100	
600. mic	43.20	15-34	35-59	60-79	
300.mic	20.30	5-20	8-30	12-40	
150.mic	3.10	0-10	0-10	0-10	

TABLE 1.2 ;

Sl No	Test Conducted	Sample	Results	Requirements as Per IS. Specification IS :383-1970 (Reaffirmed 2002)
1	Silt Content	001	1.45%	Not more than 8%
2.	Specific Gravity	----	2.60	-----

*As Furnished by Client.

The Results relate only to the items tested.

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BUB/CTE/2015-16/

1. TESTING OF COARSE AGGREGATES (40 mm):

Date: 16-10-2015

Sub: Testing of Coarse Aggregates.

{Project*: Improvements to Road and Drains at Kogilu in Ward No.06, Byatarayanapura Sub-Division}

Ref. : Letter No. AEE/BSDB/BBMP/ /2013-14, dated 10-10-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.M.B.Hombal, Contractor.

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing 40 mm Sample	Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing	
		Single size	Graded
40mm	98.20	85-100	95 - 100
20mm	66.30	0 -20	30- 70
10mm	31.00	0 -5	10- 35
4.75mm	Nil	-----	0 - 5

TABLE 12 :

SL No	Test conducted	Sample No	Results	Requirements as per IS:383-1970 & Test Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2002)
1.	Flakiness Index	As above	15.80%	Not to exceed 25 %
2.	Crushing value	-----	26.40%	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

*As Furnished by Client.

The Results relate only to the items tested.

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BUB/CTE/2015-16/

Date: 16-10-2015

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).

{Project*: Improvements to Road and Drains at Kogilu in Ward No.06, Byatarayanapura Sub-Division}

Ref. : Letter No. AEE/BSD/BBMP/ /2013-14, dated 07-10-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.M.B.Hombal, Contractor.

PHYSICAL TESTS ON CEMENT

Brand* : Birla
Grade * : 53
Type * : OPC
Date : 08-10-2015 to 15-10-2015

SL No	Name of Test	Results	Requirements as per IS 12269-1987
		Cement Sample	
1	Initial setting time	150 min	Shall not be less than 30 min
2	Final setting time	250 min	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	2.30%	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	1.60 mm	Shall not be more than 10 mm
5	Compressive strength		
	a) 3 days (average of three results)	29.00 N/ Sq mm	Shall not be less than 27 N/Sqmm
	b) 7 days (average of three results)	40.60 N/Sq mm	Shall not be less than 37N/Sqmm

*As Furnished by Client.

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BUB/CTE/2015-16/

Date: 16-10-2015

1. TESTING OF COARSE AGGREGATES (20mm):

Sub: Testing of Aggregates 20mm.

{Project*: Improvements to Road and Drains at Kogilu in Ward No.06, Byatarayanapura Sub-Division}

Ref. : Letter No. AEE/BSDBBMP/ /2013-14, dated 10-10-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.M.B.Hombal, Contractor.

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing 20 mm Sample	Requirements as per IS 383-1970 (Reaffirmed on 2002) % Passing	
		Single size	Graded
40 mm	100.00	100.00	100.00
20 mm	98.00	85-100	95 - 100
10 mm	44.30	0 - 20	25 - 55
4.75 mm	Nil	0 - 5	0 - 10

TABLE 1.2 :

SL No	Test conducted	Sample No	Results	Requirements as per IS:383-1970 & Tests Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2002)
1.	Flakiness Index	As above	16.30 %	Not to exceed 25 %
2.	Crushing value	-----	26.50%	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

*As Furnished by Client.

The Results relate only to the items tested.

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BUB/CTE/2015-16/

Date: 16-10-2015

1. TEST REPORT ON REINFORCEMENT STEEL:

Sub: Testing of Reinforcement Steel of diameter 8, 12 and 16mm (TMT bars).

{Project*: Improvements to Road and Drains at Kogilu in Ward No.06, Byatarayanapura Sub-Division}

Ref. : Letter No. AEE/BSD/BBMP/ /2013-14, dated 10-10-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.M.B.Hombal, Contractor.

TABLE - 1

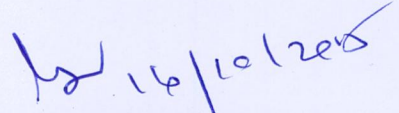
SL No	Details	For 8 mm		For 12mm		For 16mm	
		Test Results	Min. Req as per IS 1786-2008	Test Results	Min. Req as per IS 1786-2008	Test Results	Min.Req. as per IS 1786-2008
01	Observed diameter of bar	8.0mm	8.0mm	12.0mm	12.0mm	16.0mm	16.0 mm
02	Observed Wt/m Length Kg/m	0.402	0.363	0.895	0.834	1.586	1.483
03	Proof stress/Yield stress, f_y , N/mm ²	556.0	500.0	562.0	500.0	555.0	500.0
04	Bend/ Re bend Test	Ok	---	Ok	---	Ok	---
05	Percentage of Elongation, %	21.70	12.00	20.60	12.00	19.80	12.00
06	Ultimate Tensile Strength N/mm ²	622.0	545.0	636.0	545.0	618.0	545.0

*As Furnished by Client.

The Results relate only to the items tested.


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BUB/CTE/2015-16/

DATE: 29-12-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (28 days Compressive Strength)

{Project*: Improvements to Road and Drains at Kogilu in Ward No.06, Byatarayanapura Sub-Division}

Ref. : Letter No. AEE/BSDB/BBMP/ /2013-14, dated 28-12-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.M.B.Hombal, Contractor.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M₂₀

TABLE 1.1 :

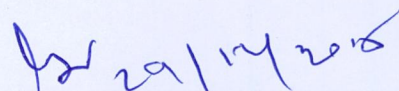
Sl No	Location/ Identification *	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm ²	Maximum Load in K.N	Compressive Strength (N/ mm ²)	Avg. Value
1	001	30-11-15	28-12-15	28	22500	510	22.66	22.81
	002	"	"	"	"	520	23.11	
	003	"	"	"	"	510	22.66	

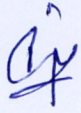
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BUB/CTE/2015-16/

Date: 03-12-2015

TEST REPORT ON WET MIX MACADAM MIX

(GRADATION TEST)

Sub: To conduct Gradation test on Wet Mix Macadam (WMM) Mix.

{Project*: Improvements to Road and Drains at Kogilu in Ward No.06, Byatarayanapura Sub-Division}

Ref. : Letter No. AEE/BSD/BBMP/ /2013-14, dated 01-12-2015

Sample supplied to lab by: Assistant Executive Engineer,
Byatarayanapura Sub-Division,
BBMP, Bangalore

Name of the Contractor/Agency*: Sri.M.B.Hombal, Contractor.

TEST RESULTS

1. Gradation Test:

TABLE 1.1

Sieve Size mm	Percent by Weight passing the Sieve from the sample supplied (Obtained Gradation)	Specified Limits as per MoRTH Specifications, IV Revision- 2001
53.00	100.00	100
45.00	97.00	95-100
26.50	---	-
22.40	77.00	60-80
11.20	44.20	40-60
4.75	35.00	25-40
2.36	26.00	15-30
0.600	18.50	8-22
0.075	4.20	0-8

*As furnished by Client.

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